

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-15 (Canceled).

Claim 16 (Currently Amended): A method of increasing precision in controlling a path of a product through a roller leveler including two leveling assemblies including parallel rolls, the assemblies being placed above and below the product respectively, members configured to set imbrications of the rolls, the method comprising:

 presetting the imbrications by using a presetting model including a reference value for presetting the imbrications;

 measuring, during a leveling operation, an absolute separation value ~~of the leveling rolls~~between an upper and a lower leveling assembly of the two leveling assemblies, and comparing the value with the reference value; and

 setting the position of the leveling rolls to keep the measured value equal to the reference value so as to keep the path of the product to be leveled in the leveler in accordance with an undulation of the leveled product predicted by the presetting model.

Claim 17 (Currently Amended): The method of increasing the control of the path of the product in a leveler as claimed in claim 16, further comprising:

 taking first and second measurements of the absolute separation value between the upper and the lower leveling assembly~~of the leveling rolls~~, the first measurement taken at an entry side of the leveler and the second measurement at an exit side of the leveler, respectively,

comparing each of the measurements with the reference value given by the model;
and

setting the position of the leveling rolls, at the entry and exit of the leveler,
respectively, to keep the measured value equal to the reference value to achieve a decrease in
degree of a plastic deformation of the leveled product predicted by the presetting model.

Claim 18 (Currently Amended): The method of controlling the path of the product
through a leveler as claimed in claim 16, further comprising:

measuring the absolute separation value of each of the leveling rolls between the
upper and the lower leveling assembly;

comparing each of the measurements with the reference value given by the presetting
model; and

setting the position of each of the leveling rolls to keep the measured value equal to
the reference value so as to achieve and undulation of the leveled product and decrease in
degree of plastic deformation of the leveled product that are predicted by the presetting
model.

Claim 19 (Currently Amended): The method of controlling the path of the product
through a leveler as claimed in claim 16, further comprising:

measuring leveling forces on at least on each side of the leveler~~an entry side and an
exit side of the leveler~~;

equileveling the work rolls using a flat machined plate of known thickness by
modifying the position of the work rolls in a differential manner by a lateral tilt from one side
onto the other side so as to equalize the leveling forces on the two sides of the leveler.

Claim 20 (Previously Presented): The method of controlling the path of the product through a leveler as claimed in claim 19, wherein said equileveling further comprises:

using a running plate by modifying the position of the work rolls in a differential manner by a lateral tilt from one side onto the other; and

equalizing average values of the forces recorded by said measuring leveling forces on each side during a run with the running plate.

Claim 21 (Previously Presented): A parallel-roll leveling installation for implementing the method as claimed in claim 16, comprising:

a fixed support stand;

two leveler assemblies of parallel rolls placed above and below the product respectively;

devices configured to set the imbrication of the rolls;

a device configured to measure leveling forces at least on each side of the leveler; and

at least one device configured to separate the leveling rolls at at least one point and to measure the separation of the rolls.

Claim 22 (Previously Presented): The parallel-roll leveling installation as claimed in claim 21, further comprising:

at least one electronic device configured to control the devices for setting the imbrication so that the measured separation of the leveling rolls will be controlled to a theoretical value given by a model.

Claim 23 (Previously Presented): The parallel-roll leveling installation as claimed in claim 22, wherein the devices for setting the imbrication are hydraulically controlled.

Claim 24 (Previously Presented): The parallel-roll leveling installation as claimed in claim 21, further comprising:

a device configured to separate the leveling rolls at at least first and second points, and configured to measure the separation of the rolls, the first point located in an entry zone and the second point located in an exit zone of the leveler.

Claim 25 (Previously Presented): The parallel-roll leveling installation as claimed in claim 24, further comprising:

at least one electronic device configured to control a measured separation of the leveling rolls located in the entry zone and in the exit zone of the leveler respectively to the theoretical value given by a model for the separation of the rolls located in the entry zone and the exit zone of the leveler respectively, by acting independently on the devices configured to set the imbrication of the rolls in each of the entry and exit zones respectively.

Claim 26 (Previously Presented): The parallel-roll leveling installation as claimed in claim 25, wherein the devices configured to set the imbrication are hydraulically controlled.

Claim 27 (Previously Presented): The parallel-roll leveling installation as claimed in claim 21, further comprising:

a device configured to separate of each pair of leveling work rolls and to measure the separation directly and separately.

Claim 28 (Previously Presented): The parallel-roll leveling installation as claimed in claim 27, further comprising:

at least one device configured to individually set a position of each leveling roll; and
at least one electronic device configured to control a measured separation of each of the leveling rolls to the theoretical value given by a model for the separation of each of the rolls by acting independently on the respective device configured to set the imbrication.

Claim 29 (Previously Presented): The parallel-roll leveling installation as claimed in claim 28, wherein the device configured to set the imbrication of each roll is hydraulically controlled.

Claim 30 (Previously Presented): The parallel-roll leveling installation as claimed in claim 23, wherein the at least one electronic device configured to control the measured separation of the leveling rolls to the theoretical value given by the model that the installation is further configured to set a differential lateral tilt of the rolls on one side relative to the other side with respect to a setpoint value.